R.P. Gorham, 1885-1946: Science in the Service of Canada

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Figure 1. Harold P. Stultz, R.P. Gorham in Charlottetown, P.E.I., June 4, 1936, MC211, MS 2/1, Raymond P. Gorham fonds, Provincial Archives of New Brunswick, Fredericton, Canada.

Raymond Paddock Gorham (1885-1946), also known as R.P. Gorham, was a Canadian entomologist. Raymond was the child of Joseph and Emma Louise Gorham, who lived in a Loyalist farm near Kingston, N.B.¹ He was born and raised in New Brunswick, where he would spend most of his professional life. A studious child from very early on, Gorham was educated at home until high school — when he caught up with his education in the Kingston consolidated school.² In 1907, Gorham was accepted into the much-coveted Macdonald College, at McGill University.³ Four years later, in 1911, Gorham would graduate with a B.S.A. in Horticulture.⁴ Upon his return to New Brunswick, Gorham was appointed to work for the provincial Department of Agriculture; and, in 1919, he transitioned to the Entomological Division, a federal branch.⁵ He worked as Assistant Entomologist in the Entomological Laboratory in Fredericton until his sudden death, in 1946.

¹ "Raymond Paddock Gorham, 1885-1946," July 3, 1956, MC211, MS1/5, Raymond P. Gorham fonds, Provincial Archives of New Brunswick, Fredericton (hereafter cited as Biography, Raymond P. Gorham fonds).

² Biography, Raymond P. Gorham fonds.

³ Autobiographical information, 1885-1945, n.d., MC211, MS2/1, Raymond P. Gorham fonds, Provincial Archives of New Brunswick, Fredericton (hereafter cited as Autobiographical information, Raymond P. Gorham fonds).

⁴ Autobiographical information, Raymond P. Gorham fonds.

⁵ Autobiographical information, Raymond P. Gorham..

Paul Gorham, one of Raymond's two sons, donated his father's collection to the Provincial Archives of New Brunswick in three separate instances: 1970, 1981, and 1984. Gorham's collection is comprehensive, containing documents that pertain to his professional and personal life. His collection is, too, remarkably diverse; it provides a window into not only his scientific inclinations, but also his other interests, such as history. His collection is divided into two different components, manuscripts (MC211) and photographs (P118). Given the breadth of the material available, this research does not suffice in dissecting it. After all, this paper focuses on the most scientific and nationalistic aspects of Gorham's character. Further scholarship could continue to be pursued, especially in what concerns Gorham's personality and struggles with mental/physical health in the 1930s.

Gorham was, in his nature, a scientific bureaucrat. Despite brief stints as a teacher at a couple of agricultural schools, he was mostly dedicated to the civil service — either provincial or federal, but primarily federal. Conveniently, the period of Gorham's life overlapped with plenty of significant developments in both the institutionalization of entomology within the Canadian government and Canadian national identity. Due to this overlap, this paper argues that R.P. Gorham encapsulated the spirit of the nationalistic scientist, eager to serve the state and its economy. Gorham's nationalistic inclination is reflected in his work, particularly as a scientific educator, and in his personal interest in New Brunswick's history.

For the sake of ease in the progression of this argument, this paper is divided into three sections. The first section provides a summary of the development of entomology in Canada, from the late 19th century to the early 20th century. It emphasizes the evolving role of entomology within the Canadian state, especially concerning agriculture, colonialism, and nationalism. The second section dissects R.P. Gorham's work, delving into his nationalistic outlook for scientific

education, as it relates to both regular and agricultural schools. Lastly, the third section approaches Gorham's nationalism as it was manifested in his personal interests, giving particular emphasis to his 1933 poem "Memory Fondly Bears Us Backward."

By the mid-1850s, Canadian entomologists were beginning to foster a sense of shared identity, of community. As noted by scholar Paolo Palladino in his *Entomology, Ecology, and Agriculture*, this movement was led by "metropolitan experts," as Reverend Charles Bethune, William Saunders, and James Fletcher.⁶ In a similar fashion to their peers in the British Empire, these men were not entomologists by profession; they had other occupations and would be considered "amateurs" or "leisurely gentlemen."⁷ Bethune was a member of the clergy; Saunders was a pharmacist, and Fletcher was an accountant.⁸ Their interest in insects was informed by theological assumptions. Early Canadian entomologists intended to better understand Divine Providence through the careful observation and collection of insects. For this reason, Palladino describes them as systematists, "busy identifying the many specimens sent to them by more untutored surveyors in the remoter parts of British North American."⁹

The growing prestige of entomology within the Canadian state, however, has little to do with the systematic iteration of the discipline. It was under the *aegis* of economic entomology that the study of insects would be enshrined in the ranks of the civil service. Economic entomology, as stated by scholar J.F.M. Clark, "sought to identify and control insects that were baneful and beneficial to agriculture and human health."¹⁰ It is, thus, the application of

⁶ Paolo Palladino, *Entomology, Ecology, and Agriculture: The Making of Scientific Careers in North America, 1885-1985*, Studies in the History of Science, Technology, and Medicine, v. 3 (Amsterdam: Harwood Academic Publishers, 1996): 47.

⁷ Matthew Wale, "Editing Entomology: Natural-History Periodicals and the Shaping of Scientific Communities in Nineteenth-Century Britain," *The British Journal for the History of Science* 52, no. 3 (September 2019): 3. ⁸ Palladino, *Entomology*, 47.

⁹ Palladino, *Entomology*, 47.

¹⁰ J. F. M. Clark, *Bugs and the Victorians* (New Haven, Conn.: Yale University Press, 2009): 194-195.

entomology in the solution of social ills —a science in the service of national interest. In Canada, the development of agriculture cannot be understood in separation from its settler-colonial context. Strengthening agriculture, solving the problems that farmers came across, was synonymous with the support of colonial settlements. It fostered their continued presence upon that land.¹¹

Up until the middle of the 19th century, however, the British North American economy was still subjected to the whims of the metropole.¹² Agriculture was not its staple and was only pursued in the form of subsistence farming.¹³ That would change when the United States, at the height of its westward expansion, began to encroach on British North American territory. It was under this light that the British North America Act was passed by the British Parliament, in 1867.¹⁴ The act established Canada as an "autonomous Dominion of the British Empire," and was followed by the governmental acquisition of the Northwestern Territories from the Hudson's Bay Company.¹⁵ Upon the acquisition, the Canadian government would begin to encourage settlement on the territories. The 1872 Dominion Lands Act belongs in this *continuum* of action, as it promoted long-term agricultural settlement in the West.¹⁶

Scientific men, such as Henry Youle Hind and George Dawson, were called upon to produce surveys on the conditions of the Northwestern Territories. Although neither of them was an entomologist *per se*, Youle Hind had been summoned by the Canadian government due to his authorship of several "prize-winning" entomological essays.¹⁷ He was meant to investigate the existence of "any potentially destructive insects" that he may have encountered throughout the

¹¹ Palladino, *Entomology*, 49.

¹² Palladino, *Entomology*.

¹³ Palladino, *Entomology*.

¹⁴ Palladino, *Entomology*, 50.

¹⁵ Palladino, *Entomology*, 49-50.

¹⁶ Palladino, *Entomology*, 50.

¹⁷ Palladino, *Entomology*.

progress of his survey.¹⁸ Palladino notes that surveys, such as those of Youle Hind and Dawson, were meant to "dispel the notions promoted among immigrants, firstly by the Hudson's Bay Company, and then by American land agents and land speculators, that the Territory would never allow profitable farming."¹⁹ It was, in sum, an attempt to pull more settlers into Canada, and away from the United States. In this context, one may observe a very early example of entomology being utilized to further the interests of the Canadian state.

It is not a coincidence that the Dominion Entomologist, James Fletcher, would be appointed — albeit in an "honorary" position — in the decade that followed.²⁰ According to Palladino, Fletcher's principal role was to "advise Canadian farmers on any other problems they might have with insects attacking their crops."²¹ As a result, Fletcher developed a close relationship with farmers across British North America; amassing, through "extensive and assiduous" correspondence, an impressive network of almost 400 entomological observers.²² The rapport between the Dominion Entomologist, his associates, and the farmers across the country would be instrumental in another key development in this newborn entomological bureaucracy: the establishment of the Dominion Experiment Farms Branch, in 1886.²³ In that same year, Fletcher became the official Dominion Entomologist of Canada.

The Dominion Experiment Farms Branch was under the jurisdiction of the Canadian government's Department of Agriculture. It was established through the Experimental Farm Station Act, which allowed for five farms throughout the country: the central station located just outside of Ottawa, and the other four in Nova Scotia, Manitoba, the Northwest Territories

¹⁸ Palladino, *Entomology*.

¹⁹ Palladino, Entomology.

²⁰ Palladino, *Entomology*, 51.

²¹ Palladino, *Entomology*.

²² Palladino, *Entomology*.

²³ Palladino, *Entomology*.

(Saskatchewan), and British Columbia. The Experiment Farms were an interdisciplinary *locus* of applied knowledge, drinking from an array of varied disciplines: entomology, horticulture, botany, and so forth. There, efforts of research and experimentation would be underway. As writes scholar George M. Cook, in his "Insecticides and the Making of Applied Entomology," among these experiments was the early development of pesticides — as a form of managing the spread of "economically injurious" insects.²⁴ Aside from that, the Experiment Farms were meant to derive from their research "useful and practical information" to be disseminated to the public.²⁵ Their research should concern, among other topics, "the relative value of breeds of livestock, varieties of wheat, fertilizers, and 'preventative remedies'."²⁶

Fletcher died in 1908, being succeeded by C. Gordon Hewitt as the Dominion Entomologist.²⁷ During the tenure of Hewitt, entomologists would achieve considerable independence from other agricultural sciences. In 1914, entomology would be pursued under the *aegis* of the Entomology Division; a venture separated from the Experiment Farms, which continued to exist.²⁸ It also marked a departure from the employment of "self-taught gentlemen," such as Fletcher and Saunders, towards that of institutionally educated, professional scientists.²⁹ This development resulted from the Civil Service Act of 1908, which stated that "anyone who sought employment in the federal government, including scientists, had to be selected on the basis of their professional achievements rather than political connections."³⁰ Since very few Canadian universities offered programs on the agricultural sciences, including entomology, it

²⁴ George M. Cook, "Spray, Spray, Spray!': Insecticides and the Making of Applied Entomology in Canada, 1871-1914," Scientia Canadensis: Canadian Journal of the History of Science, Technology and Medicine 22–23 (1998): 13.

²⁵ Cook, "Spray, Spray, Spray!'," 15.

²⁶ Cook, "Spray, Spray, Spray!"."

²⁷ Cook, "Spray, Spray, Spray!'," 38.
²⁸ Palladino, *Entomology*, 55.

²⁹ Palladino, *Entomology*, 54.

³⁰ Palladino, Entomology.

was hard for them to fill the newly-available positions. For this reason, most entomologists within the civil service were educated abroad, whether in Britain or in the United States.³¹ These dynamics solidify institutionalized Canadian entomology as part of a trans-national network of knowledge, receiving considerable influence from the metropole and its southern neighbor.

The creation of the Entomology Division as an independent entity ushered in the establishment of entomological laboratories throughout Canada.³² Among these, was the Dominion Entomological Laboratory of Fredericton, N.B., established in 1912.³³ In the provincial context, the Entomological Laboratory was only one in a string of several "government-sponsored research institutions and programs," which also included the Atlantic Biological Station (1899) and the University of New Brunswick's Forestry School (1908).³⁴ The Canadian state was imposing itself as a main sponsor of scientific research; especially in what concerned resource management. The acceptance of the state's role in the production and application of knowledge would only grow throughout the 20th century, reaching its *apex* after the Second World War.³⁵

Enter R.P. Gorham, who lived through these changing times. He graduated from Macdonald College in 1911, with a B.S.A. in Horticulture. In the earliest part of his career, he would focus the most on horticultural activities. According to his autobiographical record, Gorham "obtained work with A.G. Turner" upon graduation, "and carried on an orchard survey in N.B."³⁶ In January 1912, he was hired by the Province of New Brunswick to work as an assistant horticulturist. He held this position until 1916. In the meantime, Gorham ventured into

³¹ Palladino, *Entomology*.

³² Cook, "Spray, Spray, Spray!'," 39.

³³ Cook, "Spray, Spray, Spray!'."

³⁴ Mark McLaughlin, "The Science before Silent Spring," Acadiensis, March 21, 2018, https://acadiensis.wordpress.com/2018/03/21/the-science-before-silent-spring/.

³⁵ McLaughlin, "Science Before Silent Spring."

³⁶ Autobiographical information, Raymond P. Gorham fonds.

entomology for the first time: between 1911 and 1912, he worked under the famed English entomologist John D. Tothill in the pursuit of a major insect survey.³⁷ The survey investigated the persistence of the brown-tail gypsy moth between New Brunswick and Nova Scotia; it marked the first instance of collaboration between Gorham, as a provincial employee, with federal authorities.

Upon the end of his term with New Brunswick's Department of Agriculture, Gorham served as a teacher. He lectured in topics of "horticulture, entomology, and pathology" at the province's newly established agricultural schools of Woodstock and Sussex.³⁸ In an autobiographical excerpt, Gorham states that he taught "in the winters and at the summer school for teachers in August."³⁹ The development of agricultural schools in New Brunswick were a response to a decline in the "proportion of rural-dwellers in the Maritimes' over-all social fabric."⁴⁰ At the time of Confederation, in 1867, the overwhelming majority of Maritimers inhabited rural areas — the numbers tallying up to 90% of the population.⁴¹ With the turn of the century, that proportion fell to 75%. The numbers would continue shrinking. In 1921, 65% of Maritimers remained "beyond incorporated cities, towns and villages."⁴² Rural-dwellers depended upon natural resources, including agriculture, and had their livelihoods threatened by rapid industrialization and migration towards urban areas.⁴³

It is from this context that emerged, throughout the United States and Canada, the so-called Rural Life Movement.⁴⁴ Social reformers attempted to address the decline in rural

³⁷ Autobiographical information.

³⁸ Autobiographical information.

³⁹ Autobiographical information.

⁴⁰ Alexander Gorham and Malcolm MacLeod, "Teachers in Tents: Eighth Annual Rural Science Summer School in New Brunswick, 1922*," Acadiensis 25, no. 2 (Spring 1996): 82.

⁴¹ Gorham and Macleod, "Teachers in Tents," 82.

⁴² Gorham and Macleod, "Teachers in Tents,"
⁴³ Gorham and Macleod, "Teachers in Tents," 82-83.

⁴⁴ Gorham and Macleod, "Teachers in Tents," 82.

populations through "organized educational efforts" that would "value, understand, and perpetuate" their lifestyle.⁴⁵ MacLeod notes that these efforts encapsulated a combination between the "impulses of nature study and industrial or vocational training."⁴⁶ Interestingly, and in fashion with what is known of agricultural sciences (including entomology) in Canada, these developments were largely trans-national.⁴⁷ Measures informed by the Rural Life Movement appeared first in the United States, precisely around New York and Michigan, before being adopted in Ontario.⁴⁸ From Ontario, they reached Nova Scotia — and, from Nova Scotia, they came to New Brunswick. The first agricultural school of New Brunswick, a summer school for teachers of "rural sciences," was established in 1915.49

Here, we see a very clear example of science being utilized to solve social problems through the means of education. Gorham was immersed on this *continuum*, and similar preoccupations with the matter would accompany him throughout his career. In 1916, he was invited to teach "nature study, agriculture, and physiology" at the Provincial Normal School.⁵⁰ Gorham was meant to replace Major F.A. Good, who had been called to serve in the military. In the summer of that year, Gorham continued to interact with schoolchildren and promote initiatives on school-grounds.⁵¹ He took on the temporary role of Assistant Horticulturist to W.W. Hubbard, at Fredericton's Dominion Experiment Farm station.⁵² Among other projects, Gorham was in charge of "demonstration work for students and an attempted improvement of school-grounds through the distribution of shrubs and flowering plants."53 Upon Good's return

⁴⁵ Gorham and Macleod, "Teachers in Tents."
⁴⁶ Gorham and Macleod, "Teachers in Tents."
⁴⁷ Gorham and Macleod, "Teachers in Tents," 83.

⁴⁸ Gorham and Macleod, "Teachers in Tents."

⁴⁹ Gorham and Macleod, "Teachers in Tents."

⁵⁰ Autobiographical information, Raymond P. Gorham fonds.

 ⁵¹ Gorham and Macleod, "Teachers in Tents," 83.
 ⁵² Gorham and Macleod, "Teachers in Tents."

⁵³ Gorham and Macleod, "Teachers in Tents."

from the war, Gorham left the Provincial Normal School and joined the Division of Botany, where he worked for six months.⁵⁴

In April 1919, R.P. Gorham was appointed to work in the Canadian government's Division of Entomology. His transition to the Dominion Entomological Laboratory, in Fredericton, signals a definitive turn towards the study of insects.⁵⁵ Even then, education would still inhabit the fore-front of his mind. In a long exchange of correspondence in 1929, Gorham argued against the utilization of an American textbook of Science, titled *General Science*, in his daughter's school.⁵⁶ He was so distraught, in fact, that he wrote to Arthur Gibson, the Dominion Entomologist in Ottawa, to complain about the usage of the textbook in Canadian schools. He argues that Canadian children should be in touch with Canadian science since it is the most suited to their environment.⁵⁷

Gorham wrote, in a letter dated on October 2, 1929: "It seems that it would only be fair to point out to Canadian children that their own government issues similar publications which deal with insect life under Canadian conditions; and that these publications are at least well written, and are far better illustrated, than those issued at Washington."⁵⁸ In this instance, Gorham displays the attitude of a scientific nationalist. It is very telling that this debacle took place in the aftermath of the First World War. For this reason, Gorham's attitude is in keeping with the efforts to assert a distinct Canadian national identity — separate from both the metropole, Britain, and the United States. Moreover, it is not hard to see how the utilization of Canadian-made material would elevate the prestige of the national scientific community and spread the knowledge they

⁵⁴ Gorham and Macleod, "Teachers in Tents."

⁵⁵ Biography, Raymond P. Gorham fonds.

⁵⁶ Letter from R.P. Gorham to Otto V. Miller, October 2, 1929, MC211, MS1/1, Raymond P. Gorham fonds, Provincial Archives of New Brunswick, Fredericton.

⁵⁷ Letter from R.P. Gorham to Otto V. Miller.

⁵⁸ Letter from R.P. Gorham to Otto V. Miller.

produce to future generations. Despite Gorham's efforts, however, his inquiry seems to have been stuck in a dead-end. The textbook continued to be in use throughout New Brunswick and Nova Scotia schools, since the Division of Entomology could not interfere in the provincial Departments of Education.⁵⁹

Gorham's nationalistic tendencies are not restricted to his professional, education preoccupations. Nationalism flowed through his character, being intertwined with his personal interests and hobbies, such as the history of New Brunswick and, more generally, Canada. Although given the context of the professionalization of history as a discipline, it might even be anachronistic to call him a hobbyist historian. He published several articles in the Canadian Historical Review, and that much is attested by his correspondence record. The themes of Gorham's articles were varied: he dabbled in the histories of the Loyalists, Canadian agriculture, churches, and more.⁶⁰ Aside from that, he also took great interest in genealogy. Not only did Gorham do genealogical research on his own family, but also delving into the family histories of those that corresponded with him. Gorham's historical interests are anything if not diverse. There is, however, a line running through them, a line that weaves all these strands together: the search for identity. His own identity as a man, through genealogy; and his identity as a Canadian and a New Brunswicker. This motivation merges very well with his scientific occupation, which colors his way of seeing the world.

Gorham's nationalism, historical imagination, and scientific outlook come together in his 1933 poem "Memory Fondly Bears Us Backward." At the time of writing this piece, Gorham was sick; something that was not uncommon throughout the 1930s, per the correspondence

⁵⁹ Letter from R.H. Coats to Arthur Gibson, April 15, 1930, MC211, MS1/1, Raymond P. Gorham fonds, Provincial Archives of New Brunswick, Fredericton.

⁶⁰ Historical Research Files, MC211, MS4, Raymond P. Gorham fonds, Provincial Archives of New Brunswick, Fredericton.

between his boss, Reginald "Reg" Balch, and the Dominion Entomologist, H.G. Crawford.⁶¹ Gorham's struggles with his mental and physical health are considerably well-documented, particularly through the perspective of others. According to Balch, Gorham was a man of difficult personality. He was subject to extreme and sudden mood swings and aggressive outbursts for relatively minor occurrences: one time, in 1937, he caned an assistant named Charlie Smith, because of an issue with his garage building project in the Entomological Laboratory.⁶²

It was in 1932 that reports of Gorham's poor "general health and happiness" began to flow from Balch to Crawford.⁶³ Throughout 1933, there continued to be concerns over Gorham's return to the laboratory after a period of travelling for work. Because of his physical and mental malaises, the earlier of which included a "bad leg," Gorham was put on two different leaves between July and October 1933.⁶⁴ The first, a statutory leave, ran from July 17 to August 5, 1933; the second, from August 5 to mid-October, was a sick leave.⁶⁵ Provided that, on the margins of the poem "Memory Fondly Bears Us Backward," Gorham scribbled that it had been written while he was sick, it is reasonable to assume that it was created during the sick leave period.

As it was written in such a complicated period of his life, "Memory Fondly Bears Us Backward" shows how Gorham clings to his personal memory and historical imagination to make it through such challenging times. The poem is a description of Nova Scotia, particularly of Annapolis County. As was previously mentioned, Gorham worked in Nova Scotia in the

⁶¹ Letter from H.G. Crawford to R.E. Balch, February 5, 1932, MC2064, MS2/77, Reg Balch fonds, Provincial Archives of New Brunswick, Fredericton.

⁶² Letter from R.E. Balch to H.G. Crawford, June 6, 1934, MC2064, MS2/89; Letter from R.P. Gorham to R.E. Balch, September 3, 1937, MC2064, MS2/56.

⁶³ Letter from H.G. Crawford to R.E. Balch, February 5, 1932, MC2064, MS2/77.

⁶⁴ Letter from H.G. Crawford to R.E. Balch, April 20, 1933, MC2064, MS2/84.

⁶⁵ Letter from H.G. Crawford to R.E. Balch, July 17, 1933, MC2064, MS2/85.

beginning of his career. He writes: "Memory fondly bears us backward, / To loved places and days of yore, / Recalling happy days we spent / Amid scenes near Scotia's shore."⁶⁶ His present reality, as he was sick and temporarily out of work, forced Gorham to re-imagine his past in Nova Scotia. He does so with rich imagery, particularly when describing nature — which is part of his entomological craft. His memory of Annapolis County mixes itself, slowly but surely, with Gorham's historical imagination, as he presents the landing and settlement of the French as a national origin story of Canada: "Royal it was in centuries past / To the eyes of sons of France / As they entered past the headland / After weeks of ocean's dance."⁶⁷

In Gorham's view, as demonstrated in the poem, agriculture is central to the settlement of the Europeans in Canada. He praises Annapolis' fertility, which "proved to doubting kings of Europe / That Canada was not all snow and sand."⁶⁸ Canadian fertility, the capacity to generate "the best in roots and fruits and seeds" rendered it worth it to be settled.⁶⁹ It is not far-fetched to see how his outlook of agriculture, which is so central to entomology within the Canadian government, ties itself to that of earlier scientists, such as Henry Youle Hind. Although nearly a hundred years separate the writing of this poem and Youle Hind's pursuit of entomological surveys to propel settlement in the West, these themes continue to resonate in the imagination of Canadian scientists. Lastly, Gorham mentions Granville, "where began so many of those first things / In which Canadians now take pride."⁷⁰ In appealing to Canada's national pride, Gorham is appealing to his own pride. He wants to feel proud of being Canadian, and this is deeply

 ⁶⁶ "Memory Fondly Bears Us Backward," 1933, MC211, MS5/2, Raymond P. Gorham fonds, Provincial Archives of New Brunswick (hereafter cited as "Memory Fondly Bears Us Backward," Raymond P. Gorham fonds).
 ⁶⁷ "Memory Fondly Bears Us Backward," Raymond P. Gorham fonds.

⁶⁸ "Memory Fondly Bears Us Backwards."

⁶⁹ "Memory Fondly Bears Us Backwards."

⁷⁰ "Memory Fondly Bears Us Backwards."

intertwined with his role, as a scientist, in nation-building; but is also related to his own personal struggles, as he sat in "a sick room chair."⁷¹

Throughout this paper, it has been shown that New Brunswicker entomologist R.P. Gorham (1885-1946) encapsulated the spirit of the nationalistic scientist. This much can be felt through his professional preoccupations, especially as it concerned education. For Gorham, the furthering of Canadian science seemed to be intertwined with the furthering of the Canadian nation itself; and schools, whether regular or agricultural, were central to it. Gorham's nationalism also manifested itself in his personal interests, particularly in the history of New Brunswick and Canada. His poem, "Memory Fondly Bears Us Backwards," which was written in a period of deep disturbance, demonstrates how intertwined nationalism was to his personal and scientific outlook.

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⁷¹ "Memory Fondly Bears Us Backwards."

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